

**Conclusion**

Claims 1, 11, 12, 16, 26, 27, 31, and 34 have been amended, and Claims 6 and 21 have been canceled, to clarify, more particularly point out, and more distinctly claim various patentable distinctions already present in Applicants' claims. These changes were not made in relation to patentability. Early and favorable acceptance of this Application is respectfully requested.

If the Examiner believes a telephone conference would advance prosecution of this case in any way, the Examiner is invited to contact the undersigned Attorney for Applicants at the Examiner's convenience at (214) 953-6812.

Although Applicants believe no fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,  
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**APPENDIX A**  
**Mark-ups Reflecting Changes to Claims**

1. **(Amended)** A process for modeling at least a portion of a workflow, comprising:  
accessing a computer data structure that represents an acyclic directed graph comprising a plurality of nodes and one or more edges, each of the edges linking two adjacent nodes within the acyclic directed graph;  
requesting the value of a first function at a selected node, the value of the first function at the selected node depending at least in part on values of the first function at one or more adjacent nodes lying in a first direction from the selected node within the acyclic directed graph, a cached value of at least a second function at the selected node depending only on the value of the first function at the selected node and one or more other values associated with the selected node;

determining whether a cached value of the first function at the selected node is assured to be valid;

if the cached value of the first function at the selected node is not assured to be valid, then recomputing the value of the first function at the selected node based at least in part on the values of the first function at the one or more adjacent nodes and returning the recomputed value of the first function at the selected node; and

if the cached value of the first function at the selected node is assured to be valid, then returning the cached value of the first function at the selected node without recomputing the value of the first function at the selected node.

**Please cancel Claim 6 without prejudice or disclaimer.**

11. **(Amended)** The process of Claim 1, further comprising imposing an indication of possible invalidity on the cached values of the first function at all nodes in a second direction from the selected node in response to determining that the cached value of the first function at the selected node is not assured to be valid, the second direction being the opposite direction from the first direction.

12. (Amended) The process of Claim 1, wherein the value of the first function at the selected node is selected from the group consisting of:

an earliest possible starting time (**EPST**) for a portion of the workflow associated with the selected node, the value of the second function at the selected node being an earliest possible ending time (EPET) for the portion of the workflow associated with the selected node;

an [earliest possible ending time] **EPET** for a portion of the workflow associated with the selected node, the value of the second function at the selected node being an EPST for the portion of the workflow associated with the selected node;

a latest possible starting time (**LPST**) for a portion of the workflow associated with the selected node, the value of the second function at the selected node being a latest possible ending time (LPET) for the portion of the workflow associated with the selected node; and

[a latest possible ending time] **an LPET** for a portion of the workflow associated with the selected node, the value of the second function at the selected node being an LPST for the portion of the workflow associated with the selected node.

16. (Amended) A system for modeling at least a portion of a workflow, the system operating on one more computer processors collectively operable to:

access a computer data structure that represents an acyclic directed graph comprising a plurality of nodes and one or more edges, each of the edges linking two adjacent nodes within the acyclic directed graph;

request the value of a first function at a selected node, the value of the first function at the selected node depending at least in part on values of the first function at one or more adjacent nodes lying in a first direction from the selected node within the acyclic directed graph, a cached value of at least a second function at the selected node depending only on the value of the first function at the selected node and one or more other values associated with the selected node;

determine whether a cached value of the first function at the selected node is assured to be valid;

if the cached value of the first function at the selected node is not assured to be valid, then recompute the value of the first function at the selected node based at least in part on the values

of the first function at the one or more adjacent nodes and return the recomputed value of the first function at the selected node; and

if the cached value of the first function at the selected node is assured to be valid, then return the cached value of the first function at the selected node without recomputing the value of the first function at the selected node.

**Please cancel Claim 21 without prejudice or disclaimer.**

26. **(Amended)** The system of Claim 16, wherein the one or more computer processors are further operable to impose an indication of possible invalidity on the cached values of the first function at all nodes in a second direction from the selected node in response to determining that the cached value of the first function at the selected node is not assured to be valid, the second direction being the opposite direction from the first direction.

27. **(Amended)** The system of Claim 16, wherein the value of the first function at the selected node is selected from the group consisting of:

an earliest possible starting time (EPST) for a portion of the workflow associated with the selected node, the value of the second function at the selected node being an earliest possible ending time (EPET) for the portion of the workflow associated with the selected node;

an [earliest possible ending time] EPET for a portion of the workflow associated with the selected node, the value of the second function at the selected node being an EPST for the portion of the workflow associated with the selected node;

a latest possible starting time (LPST) for a portion of the workflow associated with the selected node, the value of the second function at the selected node being a latest possible ending time (LPET) for the portion of the workflow associated with the selected node; and

[a latest possible ending time] an LPET for a portion of the workflow associated with the selected node, the value of the second function at the selected node being an LPST for the portion of the workflow associated with the selected node.

31. **(Amended)** A system for modeling at least a portion of a workflow, the system comprising:

means for accessing a computer data structure that represents an acyclic directed graph comprising a plurality of nodes and one or more edges, each of the edges linking two adjacent nodes within the acyclic directed graph;

means for requesting the value of a first function at a selected node, the value of the first function at the selected node depending at least in part on values of the first function at one or more adjacent nodes lying in a first direction from the selected node within the acyclic directed graph, **a cached value of at least a second function at the selected node depending only on the value of the first function at the selected node and one or more other values associated with the selected node;**

means for determining whether a cached value of the first function at the selected node is assured to be valid;

means for, if the cached value of the first function at the selected node is not assured to be valid, recomputing the value of the first function at the selected node based at least in part on the values of the first function at the one or more adjacent nodes and returning the recomputed value of the first function at the selected node; and

means for, if the cached value of the first function at the selected node is assured to be valid, returning the cached value of the first function at the selected node without recomputing the value of the first function at the selected node.

34. **(Amended)** A method of modeling at least a portion of a workflow, comprising:  
accessing a computer data structure that represents an acyclic directed graph comprising a plurality of nodes and one or more edges, each of the edges linking two adjacent nodes within the acyclic directed graph, the acyclic directed graph having a time-based directionality;

requesting the value of a first function at a selected node, the value of the first function at the selected node depending at least in part on values of the first function at one or more adjacent nodes lying in a first direction from the selected node;

requesting the value of a second function at the selected node, the value of the second function at the selected node depending at least in part on the values of the first function at the

adjacent nodes, **[the] a cached** value of the second function at the selected node being returned in response to the request;

determining whether a cached value of the first function at the selected node is assured to be valid;

if the cached value of the first function at the selected node is assured to be valid, then returning the cached value of the first function at the selected node without recomputing the value of the first function at the selected node; and

if the cached value of the first function at the selected node is not assured to be valid, then recomputing the value of the first function at the selected node based at least in part on the values of the first function at the adjacent nodes, providing an indication associated with the selected node that the cached value of the first function at the selected node is assured to be valid, and returning the recomputed value of the first function at the selected node.